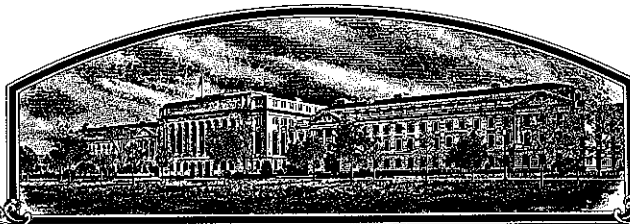


No.



9000145

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Asgrow Seed Company

Whereas, THERE HAS BEEN PRESENTED TO THE
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'A2872'

In Testimony Whereof, I have hereunto set
my hand and caused the seal of the Plant
Variety Protection Office to be affixed
at the City of Washington, D.C.
this 31st day of January in
the year of our Lord one thousand nine
hundred and ninety-two.

Attest:

Kenneth H. ...
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Edward Madigan
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE (Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) Asgrow Seed Company		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO. XP2872	3. VARIETY NAME A2872
4. ADDRESS (street and no. or R.F.D. no., city, state, and ZIP) Gull Road, Bldg. 190 Kalamazoo, MI 49001		5. PHONE (include area code) (616)384-2352	FOR OFFICIAL USE ONLY PVPO NUMBER 9000145 Filing Date Apr. 12, 1990 <input type="checkbox"/> A.M. <input type="checkbox"/> P.M. Filing and Examination Fee. \$ 2150.- Date Apr. 9, 1990 Certificate Fee: \$ 250.- Date Dec. 27, 1991
6. GENUS AND SPECIES NAME Glycine max.	7. FAMILY NAME (Botanical) Leguminosae		
8. CROP KIND NAME (Common Name) Soybean	9. DATE OF DETERMINATION September, 1984		RECEIVED 28 Jan 1992 385 6649 (616) 384-2352
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation		11. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware	
12. DATE OF INCORPORATION March 22, 1968			

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
~~Steve Hawkins 9638 190-23~~ **Dr. Gary Starwalt 9646-190-2078**
Asgrow Seed Company
Gull Road, Bldg. 190
Kalamazoo, MI 49001
 PHONE (include area code): **(616) 384-2352**

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow INSTRUCTIONS on reverse)

- a. ☒ Exhibit A, Origin and Breeding History of the Variety.
- b. ☒ Exhibit B, Novelty Statement.
- c. ☒ Exhibit C, Objective Description of Variety
- d. ☒ Exhibit D, Additional Description of Variety.
- e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.
- f. ☐ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office _____
- g. ☒ Filing and Examination Fee (\$2,150) made payable to "Treasurer of the United States."

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See section 83(a) of the Plant Variety Protection Act.)
☐ YES (If "YES," answer items 16 and 17 below) ☒ NO (If "NO," skip to item 18 below)

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☐ NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

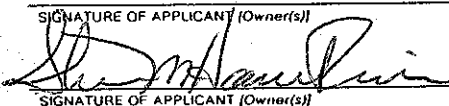
18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.
☐ YES (If "YES," through ☐ Plant Variety Protection Act ☐ Patent Act. Give date _____)
☒ NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES?
☐ YES (If "YES," give names of countries and dates)
☒ NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT (Owner(s)) 	CAPACITY OR TITLE SOYBEAN PROTECT MANAGER	DATE 3/27/90
SIGNATURE OF APPLICANT (Owner(s))	CAPACITY OR TITLE	DATE

Asgrow Seed Company
Plant Variety Protection Application - Soybean, A2872
March 6, 1990

EXHIBIT A

Origin and Breeding History of A2872

- 1983 Cross was made -- J83927
 Parentage: A2943 * A3501
- 1983-84 J83927 F1 and F2 generations were grown at Isabela, Puerto Rico. Two-hundred F2 generation plants were selected and threshed individually.
- 1984 Two-hundred sublimes of J83927 were grown in short row yield tests at two Iowa locations. J84-SP112 was selected for high yield, uniformity and standability.
- It was in September, 1984 that J83927 J84-SP112 was determined to be a stable and unique line.
- 1985 J84-SP112 was entered in yield tests at Ames, Iowa. It was selected for uniformity, yield, and standability.
- 1986 J83927 J84-SP112 was entered in yield tests at Ames, Iowa and Peoria, Illinois. It was selected for uniformity, yield, and standability.
- 1987 J83927 J84-SP112 was entered in yield tests which were grown at 13 locations throughout the midwest. It was selected for uniformity, standability and high yield.
- 1988 J83927 J84-SP112 was entered in yield tests which were grown at 19 locations throughout the midwest. It was selected for uniformity, standability and high yield.
- J83927 J84-SP112 was assigned the maturity designation XP2872.
- Breeder seed was produced.
- 1989 XP2872 was nominated for release and full production and assigned the designation of A2872.
- Foundation seed of A2872 was produced near Perry, Iowa.

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Exhibit A continued ...

A2872 is uniform and stable within commercially acceptable limits based on trial observations since its development in 1984. As with other soybean varieties, variants can occur for almost any characteristic during the course of repeated sexual reproduction.

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EXHIBIT B

Novelty Statement Concerning A2872 Soybean

To our knowledge the soybean variety that most closely resembles A2872 is: Century 84

Characteristics which differentiate A2872 include, but are not necessarily restricted to, the following:

1. Peroxidase Activity

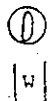
A2872 = High
Century 84 = Low

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) Asgrow Seed Company	TEMPORARY DESIGNATION XP2872	VARIETY NAME A2872
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) Gull Road, Bldg. 190 Kalamazoo, MI 49001		FOR OFFICIAL USE ONLY PVPO NUMBER 9000145

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)

2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ 2. SEED COAT COLOR: (Mature Seed)

1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other (Specify) _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

★ 5. HILUM COLOR: (Mature Seed)

1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other (Specify) _____

★ 6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow 2 = Green

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low 2 = High

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP^{1a}) 2 = Type B (SP^{1b})

★ 9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')
4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ 10. LEAFLET SHAPE:

1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other (Specify) _____

11. LEAFLET SIZE:

1 = Small ('Amsoy 71'; 'A5312')
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

12. LEAF COLOR:

1 = Light Green ('Weber'; 'York')
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium-Green ('Corsoy 79'; 'Braxton')

★ 13. FLOWER COLOR:

1 = White

2 = Purple

3 = White with purple throat

★ 14. POD COLOR:

1 = Tan

2 = Brown

3 = Black

★ 15. PLANT PUBESCENCE COLOR:

1 = Gray

2 = Brown (Tawny)

16. PLANT TYPES:

1 = Slender ('Essex'; 'Amsoy 71')
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

★ 17. PLANT HABIT:

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

★ 18. MATURITY GROUP:

1 = 000

2 = 00

3 = 0

4 = I

5 = II

6 = III

7 = IV

8 = V

9 = VI

10 = VII

11 = VIII

12 = IX

13 = X

★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

★

Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

★

Bacterial Blight (*Pseudomonas glycinea*)

★

Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

★

Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojinal*)

★

Race 1

Race 2

Race 3

Race 4

Race 5

Other (Specify)

Target Spot (*Corynespora cassicola*)Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)Powdery Mildew (*Microsphaera diffusa*)

★

Brown Stem Rot (*Cephalosporium gregatum*)Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

FUNGAL DISEASES: (Continued)

- ★ Pod and Stem Blight (*Diaporthe phaseolorum* var; *sojae*)
- Purple Seed Stain (*Cercospora kikuchii*)
- Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ★ Race 1 Race 2 Race 3 Race 4 Race 5 Race 6 Race 7
- Race 8 Race 9 Other (Specify) 10, 11, 13, 17, 21

VIRAL DISEASES:

- Bud Blight (Tobacco Ringspot Virus)
- Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★ Cowpea Mosaic (Cowpea Chlorotic Virus)
- Pod Mottle (Bean Pod Mottle Virus)
- ★ Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ★ Race 1 Race 2 Race 3 Race 4 Other (Specify) _____
- Lance Nematode (*Hoplolaimus Colombus*)
- ★ Southern Root Knot Nematode (*Meloidogyne incognita*)
- ★ Northern Root Knot Nematode (*Meloidogyne Hapla*)
- Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- Reniform Nematode (*Rotylenchulus reniformis*)
- OTHER DISEASE NOT ON FORM (Specify): _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ★ Iron Chlorosis on Calcareous Soil
- Other (Specify) _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- Mexican Bean Beetle (*Epilachna varivestis*)
- Potato Leaf Hopper (*Empoasca fabae*)
- Other (Specify) _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	Century 84	Seed Coat Luster	Century 84
Leaf Shape	Century 84	Seed Size	A2943
Leaf Color	A3127	Seed Shape	A2943
Leaf Size	A2943	Seedling Pigmentation	A1937

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/POD
				CM Width	CM Length	% Protein	% Oil		
A2872 Submitted	135	1.5	107	9.5	14.2	42.7	22.0	14.6	
Century 84 Name of Similar Variety	135	1.5	109	10.4	14.5	47.9	20.1	15.9	

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A₂ in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

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EXHIBIT D

Additional Description of the Variety

A2872 is a late maturity group II cultivar that possesses exceptional yield potential, excellent standability, multi-race phytophthora root rot resistance and outstanding phenotypic appearance.

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EXHIBIT E

Statement of the Basis of Applicant's Ownership

A2872 was originated and developed by James E. Miller, Ph.D., an Asgrow plant breeder. By agreement between employee and Asgrow Seed Company, all rights to any invention, discovery, or development made by an employee are assigned to the Company. No rights to such invention, discovery, or development are retained by the employee.